REMARKS

The present application includes pending claims 1-14, all of which have been rejected. By this Amendment, claim 1 has been amended, and claims 2, 5, 13-14 have been cancelled. Applicant respectfully submits that claims 1, 3-4, 6-12 are allowable as amended.

Claim Rejections - 35 U.S.C.§103

Claims 1-5, 7, 9, 13-14 are rejected under 35 U.S.C.§103(a) as being unpatentable over Frigon (U.S. Publication No.2003/0108135) in view of Chen et al. (U.S. Patent No.7,269,206).

Claim 6 are rejected under 35 U.S.C.§103(a) as being unpatentable over Frigon (U.S. Publication No.2003/0108135) in view of Chen et al. (U.S. Patent No.7,269,206) as applied to claim 1 above, and further in view of Li et al. (U.S. Patent No.6,778,588) in view of Demir et al. (U.S. Publication No.2003/0072357).

Claim 8 are rejected under 35 U.S.C.§103(a) as being unpatentable over Frigon (U.S. Publication No.2003/0108135) in view of Chen et al. (U.S. Patent No.7,269,206) as applied to claim 2 above, and further in view of Li et al. (U.S. Patent No.6,778,588) in view of Lucidarme et al. (U.S. Publication No.2004/0196793).

Claim 10-12 are rejected under 35 U.S.C.§103(a) as being unpatentable over Frigon (U.S. Publication No.2003/0108135) in view of Chen et al. (U.S. Patent No.7,269,206) as applied to claim 9 above, and further in view of Ono (U.S. Patent No.6,996,156).

Applicant respectfully submits that claims 1, 3-4, 6-12 are allowable as amended.

As amended, claim 1 recites a method for estimating carrier frequency offset in subscriber terminals in TD-SCDMA system, the method comprising:

A. determining number of effective base stations with same carrier frequency from which more than one signals are received by a subscriber terminal and main path positions of each signal;

B. combining the signals of each base station with same carrier frequency corresponding to the number of effective base stations with same carrier frequency based on the main path positions

obtained in step A;

C. calculating a rough estimation value of the carrier frequency offset based on combined signal in step B;

wherein the determining number of effective base stations with same carrier frequency from which more than one signals are received by a subscriber terminal in step A comprises:

A1. calculating peak power value of each signal received by the subscriber terminal, and selecting the peak power values of predefined maximum number of base stations with same carrier frequency from higher to lower;

A2. determining the number of effective base stations with same carrier frequency from the signals determined in step A1 by the predefined maximum number of base stations with same carrier frequency are received by the subscriber terminal by comparing the ratio of the highest peak power value from the order in step A1 to the subsequent peak power values with a given threshold;

wherein step A2 further comprises :

A21. numbering the peak power values ordered from the highest to the lowest and setting a current sequence number as predefined number of the base stations with same carrier frequency ;

A22. determining whether the highest peak power value and a peak power value corresponding to the current sequence number are greater than the given threshold, if so, setting the number of effective base stations with same carrier frequency from which the signals are received by a subscriber terminal as the value of the current sequence number, otherwise, the current sequence number decreases by one and returns back to step A22.

US Publication No.20030108135 (Hereinafter referred as Frigon) discloses a method for synchronization in wireless systems using receive diversity.

Comparing claim 1 with Frigon, Frigon at least fails to teach or suggest the limitations "A21. numbering the peak power values ordered from the highest to the lowest and setting a current sequence number as predefined number of the base stations with same carrier frequency; A22.

determining whether the highest peak power value and a peak power value corresponding to the current sequence number are greater than the given threshold, if so, setting the number of effective base stations with same carrier frequency from which the signals are received by a subscriber terminal as the value of the current sequence number, otherwise, the current sequence number decreases by one and returns back to step A22," as recited in claim 1.

Further, U.S. Patent No.7,269,206 (Hereinafter referred as Chen et al) discloses flexible correlation for cell searching in CDMA system, comprising:

The selection unit 122 orders the n 122n greatest secondary correlation values from the secondary correlation table 121t from greatest to least. The n 122n secondary correlation values are then normalized by dividing them all by the greatest secondary correlation value. (Col.5, lines 42-45)

Comparing claim 1 with Chen et al, it can thus be seen that the clear difference between claim 1 and Chen et al, which are stated in the following:

Chen et al discloses the selection unit 122 orders the n 122n greatest secondary correlation values from the secondary correlation table 121t from greatest to least. The n 122n secondary correlation values are then normalized by dividing them all by the greatest secondary correlation value, Chen et al is silent with regard to determining whether the highest peak power value and a peak power value corresponding to the current sequence number are greater than the given threshold. More specifically, Chen et al does not disclose if the highest peak power value and a peak power value corresponding to the current sequence number are greater than the given threshold, setting the number of effective base stations with same carrier frequency from which the signals are received by a subscriber terminal as the value of the current sequence number, otherwise, the current sequence number decreases by one and returns back to execute step A22, as recited in claim 1.

Therefore, Chen et al at least fails to teach or suggest the limitations "A21. numbering the peak power values ordered from the highest to the lowest and setting a current sequence number as

predefined number of the base stations with same carrier frequency; A22. determining whether the highest peak power value and a peak power value corresponding to the current sequence number are greater than the given threshold, if so, setting the number of effective base stations with same carrier frequency from which the signals are received by a subscriber terminal as the value of the current sequence number, otherwise, the current sequence number decreases by one and returns back to step A22," as recited in claim 1.

Thus, both Frigon and Chen et al fail to teach the limitations "A21. numbering the peak power values ordered from the highest to the lowest and setting a current sequence number as predefined number of the base stations with same carrier frequency; A22. determining whether the highest peak power value and a peak power value corresponding to the current sequence number are greater than the given threshold, if so, setting the number of effective base stations with same carrier frequency from which the signals are received by a subscriber terminal as the value of the current sequence number, otherwise, the current sequence number decreases by one and returns back to step A22," as recited in claim 1. Therefore, even if the two references could be legitimately combined as the Examiner suggested, the combination still fails to disclose or suggest the above-cited limitations.

Furthermore, the Examiner has not articulated any additional rationales to support the obviousness rejection. Claim 1 is therefore not obvious over the cited references.

For at least these reasons, the applicant respectfully request withdrawal of the rejection under 35 U.S.C.§103 and allowance of claim 1.

Additionally, for at least these reasons stated above regarding claim 1, dependent claims 3-4, 6-12 are also patentable. The applicant respectfully requests withdrawal of the rejection under 35 U.S.C.§103 and allowance of claims 3-4, 6-12.
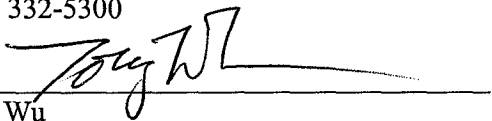
Summary

In view of the above amendments and remarks, Applicant respectfully requests a Notice of Allowance. If the Examiner believes a telephone conference would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the below-listed telephone number.

Respectfully submitted,

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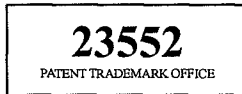
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